

**WHAT IS CLAIMED IS:**

1. A microtitration plate, comprising
  - a frame (2) made of a stiff first plastic which has a plate (4) with a multiplicity of holes (6), and
  - a multiplicity of vessels (3) made of a second plastic suited for the PCR and/or exhibiting permeability to oxygen, which are fixedly connected to the plate (4) by directly molding them to the holes (6), have a receiving portion (9, 10, 11) protruding from the underside (8) of the plate (4), and are accessible from the upper surface (7) of the plate through apertures (15).
2. The microtitration plate according to claim 1 wherein the vessels (3) are connected to the plate (4) in a non-positive and/or positive and/or material fit.
3. The microtitration plate according to claim 2 wherein the vessels (3) are connected to the plate (4) at least on one side (7, 8) thereof in a non-positive fit by molding them to holes (6) having a variable

cross-section in an axial direction and/or to the marginal area of the holes (6) .

4. The microtitration plate according to any one of claims 1 to 3 wherein the vessels (3) have a wall portion (10) of a very small wall thickness adjacent to a vessel bottom (9) and have an upper wall portion (12) connected to the plate (4).
5. The microtitration plate according to any one of claims 1 to 4 wherein the vessels (3) are of a wall thickness of from about 0.05 to 0.25 mm at least in one wall portion (10).
6. The microtitration plate according to any one of claims 1 to 5 wherein the vessels (3) have a collar of an increased wall thickness as an upper wall portion (12) connected to the plate (4).
7. The microtitration plate according to any one of claims 1 to 6 wherein the vessels (3) have a substantially cup-shaped bottom (9) and/or wall portions (10) of a small wall thickness are substantially conical and/or, in a wall portion (11) adjoining it, are of a wall thickness which gradually increases upwardly.

8. The microtitration plate according to any one of claims 1 to 7 wherein the vessels (3) have molding points at the bottom (9) of the vessels.
9. The microtitration plate according to any one of claims 1 to 8 wherein the frame (2) has a bordering (5) protruding from the underside (8) thereof at the edge of the plate (4).
10. The microtitration plate according to any one of claims 1 to 9 wherein the frame (2) has several edge-sided molding points.
11. The microtitration plate according to any one of claims 1 to 10 wherein the frame (2) is made of an amorphous plastic or a partially crystalline, heavily filled plastic.
12. The microtitration plate according to any one of claims 1 to 11 wherein the frame (2) is made of polycarbonate .
13. The microtitration plate according to any one of claims 1 to 12 wherein the vessels (3) are made of a soft and/or partially crystalline plastic.
14. The microtitration plate according to any one of claims 1 to 12 wherein the vessels are made of polypropylene or silicone.

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15. The microtitration plate according to claim 14 wherein the vessels (3) are made of LSR.
16. A microtitration plate in plastic, particularly according to any one of claims 1 to 15, comprising:
  - a rigid frame (2) which includes a plate (4'),
  - a multiplicity of vessels (3'), which are fixedly connected to the plate (4'), have a receiving portion protruding from the underside (8') of the plate (4'), and are accessible from the upper surface (T) of the plate (4') through apertures (15'),
  - a rigid lid (20) adapted to be releasably attached on the upper surface (7') of the plate (4'), and
  - at least one seal (16, 22) between the lid (20) and the plate (4') which is of an elastic material which deviates from the plastic of the plate (4') and/or the lid (20) and is fixedly connected to the lid (20) and/or the plate (4') in order to close the apertures (15') when the lid (20) is disposed on the plate (4').

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17. The microtitration plate according to claim 15 wherein the at least one seal is connected to the plate (4') and/or the lid (20) in a non-positive and/or positive and/or material fit .
18. The microtitration plate according to claim 16 or 17 wherein the at least one seal (16) is disposed on the upper surface of the plate (4') and surrounds the apertures (15').
19. The microtitration plate according to claim 18 wherein the at least one seal (16) is annular.
20. The microtitration plate according to claim 19 wherein seals surrounding various apertures (15') are connected to each other by connection webs (18, 19) of the same material.
21. The microtitration plate according to any one of claims 16 to 20 wherein the at least one seal (16) is connected to a collar of the vessels (3').
22. The microtitration plate according to any one of claims 16 to 21 wherein the at least one seal (22) is disposed on the underside of the lid (20) and is annular, plug-shaped, mat-shaped or lip-shaped.

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23. The microtitration plate according to any one of claims 16 to 22 wherein the at least one seal (16, 22) is made of a thermoplastic, elastomer, thermoplastic elastomer or rubber.
24. A process for the manufacture of a microtitration plate according to any one of claims 1 to 23 **wherein the frame (2) and the vessels (3) are manufactured in a multi-component molding technique.**
25. The process according to claim 24 wherein the frame (2) is molded initially and the vessels (3) are molded subsequently .
26. The process according to claim 25 wherein the vessels (3) are molded at such interval from the molding of the frame (2) as substantially ensures the shrinking of the frame (2) completely.
27. The process according to any one of claims 24 to 26 wherein the frame (2) is molded from several molding points in the marginal area.
28. The process according to any one of claims 24 to 27 wherein the vessels (3) are molded from their own molding point each, starting from their bottom (9).

29. A process for the manufacture of a microtitration plate according to any one of claims 24 to 28 wherein the frame (2') and the at least one seal (16) and/or the lid (20) and the at least one seal (22) are manufactured in a multi-component molding technique.
30. The process according to claim 29 wherein the microtitration plate (1') is molded initially and the at least one sealing (16) is molded subsequently and/or the lid (20) is molded initially and the at least one seal (22) is molded subsequently.

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